1. $A = \frac{1}{2}(4.7)(12.4)\sin 47°20'$

$A = 21.4\ mi^2$ ★

2. $C = 180° - 34.4° - 14.8°$

$C = 130.8°$

$\frac{c}{\sin 130.8°} = \frac{13.9}{\sin 34.4°}$

$c = 18.6m$

$A = \frac{1}{2}(13.9)(18.6)\sin 14.8°$

$A = 33\ m^2$ ★

3. $s = \frac{15+17+29}{2} = 30.5\ in$

$A = \sqrt{30.5(30.5-15)(30.5-17)(30.5-29)}$

$A = 97.8\ in^2$ ★

4. $C = 180° - 35° - 50° = 95°$ ★

$\frac{12}{\sin 95°} = \frac{c}{\sin 50°}$ $\quad$ $\frac{12}{\sin 95°} = \frac{a}{\sin 35°}$

$c = 9.2$ ★ $\quad$ $a = 6.9$ ★

5. $A = 180° - 24.8° - 61.3° = 93.9°$ ★

$\frac{8.2}{\sin 93.9°} = \frac{c}{\sin 61.3°}$ $\quad$ $\frac{8.2}{\sin 93.9°} = \frac{b}{\sin 24.8°}$

$c = 7.2\ cm$ ★ $\quad$ $b = 3.4cm$ ★

6. $9^2 = 4^2 + 7^2 - 2(4)(7)\cos C$

$C = 92.3°$ ★

$\frac{9}{\sin 92.3°} = \frac{7}{\sin B}$

$B = \sin^{-1}\left[\frac{7\sin 92.3°}{9}\right]$

$B = 51°$ ★

$180° - 51° - 92.3°$

$A = 36.7°$ ★

7. $a^2 = 25 + 81 - 2(45)\cos 120°$

$a = 12.3\ yd.$ ★

$\frac{12.3}{\sin 120°} = \frac{9}{\sin B}$

$B = 39.3°$ ★

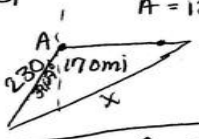
$C = 180° - 39.3° - 120°$

$C = 20.7°$ ★

8. $A = 90° + 39.67°$

$A = 129.67°$

$x^2 = 230^2 + 170^2 - 2(230)(170)\cos 129.67°$

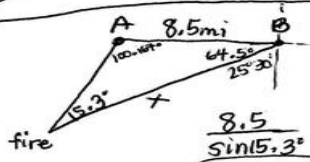


$x = 362.9\ mi$ ★

9. $A = 90° + 10°10'$

$B = 90° - 25°20'$

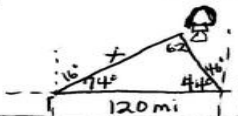
fire $\angle = 180 - A - B$



$\frac{8.5}{\sin 15.3°} = \frac{x}{\sin 100.167°}$

$x = 31.7mi$ ★

10. balloon $\angle = 180 - 74 - 44$

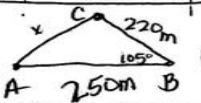


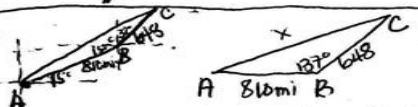
$\frac{120}{\sin 62°} = \frac{x}{\sin 44°}$

$x = 94.9mi$ ★

11. $x^2 = 220^2 + 250^2 - 2(220)(250)\cos 105°$

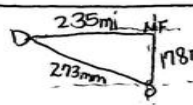
$x = 373.3m$ ★



12. 

$x^2 = 810^2 + 648^2 - 2(810)(648)\cos 137°$

$x = 1357.9mi$ ★

13. 

a) N58.4° W ★

$235^2 = 178^2 + 273^2 - 2(178)(273)\cos\theta$